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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,118	09/26/2000	MICHAEL S. DARSILLO	99078X206650	5497

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EXAMINER

BERNATZ, KEVIN M

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 04/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MFEN

Office Action Summary	Application No.	Applicant(s)	
	09/670,118	DARSILLO ET AL.	
	Examiner	Art Unit	
	Kevin M Bernatz	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
 4a) Of the above claim(s) 8-26 and 34-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 27-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 29-43 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5,6,8</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Response to Amendment

1. Preliminary amendments to the specification and claims 5, 10, 15 and 29 - 43, filed on January 18, 2002, have been entered in the above-identified application.
2. Furthermore, the examiner acknowledges the error in referring the recording medium as a "magnetic" recording medium and affirms applicants' comments that the medium is not limited to such.

Election/Restrictions

3. Applicant's amendment to add additional claims has been considered by the Examiner and the additional claims have been broken down into the following groups (see Election requirement, Paragraph 1 of Paper No. 7):

Group 1 - claims 29 - 33

Group 2 - claims 34 - 43

Applicant's election with traverse of Group 1, claims 1 - 7 and 27 - 33 in Paper No. 10 is acknowledged. The traversal is on the ground(s) that there would be no serious burden to search all the claims together. This is not found persuasive since the examiner reminds applicant(s) that a separate classification is a *prima facie* showing of a serious burden (see MPEP § 803). In addition, while the search may be overlapping, there is no reason to believe the search would be coextensive. Furthermore, the examiner notes that the composition and method claims contain non-nominal method

steps such as controlling the pH, solids to water concentration and zeta potential of the intermediate product. As such, the requirement is still deemed proper and is therefore made FINAL.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract of the disclosure is now limited to ***one paragraph containing 150 words or 15 lines (37 CFR 1.72)***. See MPEP § 608.01(b).

The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Drawings

5. The corrected or substitute drawings were received on February 6, 2002. These drawings are accepted.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 5, 7, 27/25/8 and 28/26/24/13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "glossy" in claim 1 is a relative term which renders the claim indefinite. The term "glossy" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. While the terms glossy and matte are known in the art, the scope of the invention is indefinite since the specification does not contain a specific "gloss value" to distinguish what applicants' feel is "glossy" versus "matte" or "flat". This rejection can be overcome by adding specific values of "gloss" to the claims (see specification page 10, lines 16 – 23).

Regarding claims 5, 7, 8 and 13, the phrases "less than about", "at least about" and "greater than about" renders the claim(s) indefinite because the metes and bounds are ill defined. The phrase "less than X", meaning any value less than X, excluding X, is well defined if X is well defined. If X is not well defined, then the phrase is indefinite because it is unclear which values are to be excluded from the range. The phrases "at least about" and "greater than about" are indefinite for identical reasons since "less than", "at least" and "greater than" have **exact** meanings. Deleting the word(s) "about" from the claim(s) is sufficient to overcome this rejection, or rewording the claims to

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avoid using mathematical expressions having exact meanings (e.g. rewording claim 7 to read "about 2:1 or more by weight" would be acceptable because "or more" is not a mathematically exact expression).

Claim 7 recites the limitation "the pigment" in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of evaluating the prior art, this was interpreted to mean "the alumina particles".

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claims 1 – 5, 7, 27/25/8, 28/26/24/13, 29 and 30 are rejected under 35

U.S.C. 102(b) as being anticipated by Liu et al. (EP 803374 A2).

Regarding claims 1, 4, 27 and 28, the claimed invention reads on Liu et al. as follows: Liu et al. disclose a recording medium comprising a substrate having a coating thereon, the coating comprising alumina particles and a binder, wherein the alumina particles are aggregates of primary particles (page 4, lines 25 – 45 and examples). Furthermore, Liu et al. disclose a solids content meeting applicants' claimed limitations (claim 8) (examples and Table 3). The limitations "are fumed alumina particles" (claim

4), "drying the coated substrate" (claims 25 and 26), "providing a colloidally stable dispersion" (claim 13), "and the solids content ..in the dispersion is greater than about 20 wt%" (claim 13) and "and, optionally, diluting ...suitable acid or base" (claim 13) are product-by-process limitations and are given little or no weight in terms of evaluating the prior art since they are not further limiting in so far as the structure of the product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113.

Regarding claims 2, 3 and 7, Liu et al. disclose substrates and alumina to binder ratios meeting applicants' claimed limitations (page 5, lines 42 – 47; page 6, lines 53 – 59; page 10, lines 12 – 14; examples, especially I-8 and 9).

Regarding claims 5, 29 and 30, Liu et al. disclose aggregate diameters meeting applicants' claimed limitations (page 6, lines 27 – 33; page 13, lines 40 – 52; page 14, lines 21 – 24; and examples).

10. Claims 1 – 6, 28/26/24/13 and 29 - 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al. (U.S. Patent No. 6,124,031).

Regarding claims 1, 4 and 28, the claimed invention reads on Yoshida et al. as follows: Yoshida et al. disclose a recording medium comprising a substrate having a

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coating thereon, the coating comprising alumina particles and a binder, wherein the alumina particles are aggregates of primary particles (col. 1, line 64 bridging col. 2, line 13; col. 3, lines 19 – 24; col. 4, lines 3 – 18; col. 4, line 46 bridging col. 5, line 5; col. 12, lines 14 – 18; col. 14, lines 54 – 62; and examples). The limitations “are fumed alumina particles” (claim 4), “drying the coated substrate” (claim 26), “providing a colloidally stable dispersion” (claim 13), “and the solids content ..in the dispersion is greater than about 20 wt%” (claim 13) and “and, optionally, diluting ...suitable acid or base” (claim 13) are product-by-process limitations and are given little or no weight in terms of evaluating the prior art for the reasons cited above.

Regarding claims 2 and 3, Yoshida et al. disclose substrates meeting applicants' claimed limitations (examples).

Regarding claims 5, 6 and 29 - 33, Yoshida et al. disclose aggregate diameters and surface areas meeting applicants' claimed limitations (col. 3, lines 13 – 24 and examples).

11. Claims 1 – 5, 28/26/24/13, 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Okazaki et al. (U.S. Patent No. 5,677,034).

Regarding claims 1, 4 and 28, the claimed invention reads on Okazaki et al. as follows: Okazaki et al. disclose a recording medium comprising a substrate having a coating thereon, the coating comprising alumina particles and a binder, wherein the alumina particles are aggregates of primary particles (col. 1, lines 41 – 62; col. 3, lines 42 – 56; examples; and Table 1). The limitations “are fumed alumina particles” (claim

4), "drying the coated substrate" (claim 26), "providing a colloidally stable dispersion" (claim 13), "and the solids content ..in the dispersion is greater than about 20 wt%" (claim 13) and "and, optionally, diluting ...suitable acid or base" (claim 13) are product-by-process limitations and are given little or no weight in terms of evaluating the prior art for the reasons cited above.

Regarding claims 2 and 3, Okazaki et al. disclose substrates meeting applicants' claimed limitations (col. 5, lines 5 – 14 and examples).

Regarding claims 5, 29 and 30, Okazaki et al. disclose aggregate diameters meeting applicants' claimed limitations (col. 3, lines 43 - 56 and examples).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6 and 31 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. as applied above, and further in view of Yoshida et al. ('031).

Regarding claims 6 and 31 - 33, Liu et al. disclose the claimed invention as described above.

Liu et al. fail to disclose the surface area of the agglomerates.

However, Yoshida et al. teach controlling the surface area of the agglomerates to within applicants' claimed limitations since the surface area is directly related to the

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particle size, and controlling the particle size can result in improved slipping property, abrasion resistance and scratch resistance (col. 1, lines 6 – 14; col. 3, lines 13 – 24; col. 4, lines 3 – 18 and lines 46 – 49; and examples).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Liu et al. to include agglomerates possessing surface areas meeting applicants' claimed limitations as taught by Yoshida et al. since the surface area is directly related to the particle size, and controlling the particle size can result in improved slipping property, abrasion resistance and scratch resistance.

14. Claims 6 and 31 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. as applied above, and further in view of Yoshida et al. ('031).

Regarding claims 6 and 31 - 33, Okazaki et al. disclose the claimed invention as described above.

Okazaki et al. fail to disclose the surface area of the agglomerates.

However, Yoshida et al. teach controlling the surface area of the agglomerates to within applicants' claimed limitations since the surface area is directly related to the particle size, and controlling the particle size can result in improved slipping property, abrasion resistance and scratch resistance (col. 1, lines 6 – 14; col. 3, lines 13 – 24; col. 4, lines 3 – 18 and lines 46 – 49; and examples).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Okazaki et al. to include

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agglomerates possessing surface areas meeting applicants' claimed limitations as taught by Yoshida et al. since the surface area is directly related to the particle size, and controlling the particle size can result in improved slipping property, abrasion resistance and scratch resistance.

15. Claims 7 and 27/25/8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. as applied above, and further in view of IDS reference to Hatanaka et al. (U.S. Patent No. 5,399,407).

Okazaki et al. disclose the claimed invention as described above.

Okazaki et al. fail to disclose the weight percent alumina, nor the binder to alumina ratio.

However, Hatanaka et al. teach adding agglomerates of alumina to coatings on magnetic recording supports to provide improved running durability and electro-magnetic conversion characteristics (col. 3, lines 19 – 68). Hatanaka et al. further disclose the effects of varying the amount of alumina added, including amounts meeting applicants' claimed limitations (Figures 3 and 8 – 10).

It would therefor have been obvious to one having ordinary skill in the art to have determined the optimum value of a cause effective variable such as the weight percent alumina and alumina to binder ratio through routine experimentation in the absence of a showing of criticality in the claimed weight percent or ratio, especially given the teachings of Hatanaka et al. which illustrates the effects on durability and output when

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the amount of alumina is varied. *In re Boesch*, 205 USPQ 215 (CCPA 1980), *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (703) 308-1737. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



KMB
March 27, 2002



STEVAN A. RESAN
PRIMARY EXAMINER